

Amendments to the Drawings:

A Replacement sheet for a revised Figure 19 has deleted the reference to “38: Si O₂ mask”. In this regard, since this mask is only used for fabricating the semiconductor optical device, the SiO₂ mask is not shown in Figure 19. It is therefore respectfully requested that the revised Figure be approved and entered, and that the objection to the drawing be withdrawn.

REMARKS

Claims 7 to 10 are pending and being considered (since claim 11 was previously withdrawn in response to a restriction requirement).

Applicants respectfully request reconsideration of the present application in view of this response.

With respect to paragraph three (3) of the Office Action, Figure 19 was objected to as not showing reference number 38 in the depicted layered structure. A Replacement sheet for a revised Figure 19 has deleted the reference to "38: Si O₂ mask". In this regard, since this mask is only used for fabricating the semiconductor optical device, the SiO₂ mask is not shown in Figure 19. It is therefore respectfully requested that the revised Figure be approved and entered, and that the objection to the drawing be withdrawn.

With respect to paragraph four (4), claim 9 was objected to for an asserted informality. The objection is respectfully traversed. It is respectfully submitted that claim 9 as presented plainly distinguishes between the Ru-doped semi-insulating layer provided as the burying layer and the Ru-doped semi-insulating layer provided in the space. It is therefore respectfully requested that the objection to claim 9 be withdrawn.

With respect to paragraph six (6), claims 7 to 11 were rejected under 35 U.S.C. § 102(e) as anticipated by Akulova, U.S. Patent No. 6,664,605.

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102, the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully

submitted that any anticipation rejection premised on the inherency doctrine must fail absent the foregoing conditions.

While the anticipation rejections may not be agreed with, to facilitate matters, claim 7 has been rewritten to better clarify its subject matter.

In particular, in claim 7 as now presented, the “smaller than the width of said cladding layers” feature is better defined as now provided for in the claim. This feature of claim 7 as presented is based on Fig. 23 and the disclosure at page 34, lines 22-35, for example. More specifically, the “Akulova” reference does not identically disclose (or even suggest) the feature in which the “width of the active region is smaller than any of the width of the cladding layer having the first conductivity and the width of the cladding layer having the second conductivity”. In “Akulova”, the width of the active region 114 is smaller than the width of the cladding layer 112, but is greater than the width of the cladding layer 116. By adopting the present structure, a space between the burying layer and the active region is provided in both sides of the active region, so that the Ru-doped semi-insulating layer can be provided in the space.

It is therefore respectfully submitted that claim 7 as presented is allowable.

Claims 8 to 10 depend from claim 7 as presented and are therefore allowable for the same reasons as claim 7 as presented.

In summary, it is respectfully submitted that all of claims 7 to 10 of the present application are allowable at least for the foregoing reasons.

CONCLUSION

In view of the foregoing, it is believed that the objection and the rejections have been obviated, and that claims 7 to 10 are therefore allowable. It is therefore respectfully requested that the objection and the rejections be withdrawn, and that the present application issue as early as possible.

Respectfully submitted,
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